

The Research Program of The Environmental Protection Subcommittee of WWCAM

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WELCOME

Changchun Environment Protection Bureau

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I am very glad to meet all the working level officials from those cities share lots of similarities in climate and geographical conditions. And we will conduct discussion on environment issues with the purpose on finding possible solutions on better protecting our environment and development of cities in winter season.



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**We founded this environment protection subcommittee
Established in 1981, the Northern Intercity Conference
to solve environment issues. The new subcommittee has
was developed into World Winter Cities Association for
following functions:
Mayors (WWCAM) with more than 50 participating
cities from 15 countries and regions.**

- 1.To conduct environment related investigation and research;
- 2.To promote experience and idea exchange among WWCAM member cities;
- 3.Find ways to solve winter cities problems.



We take Changchun as example, the city faces the following problems in winter:

- ① The pollution caused by the burning of large amount of coal to offer enough heat to the city;
- ② The negative impact caused by the using of snowmelt agent after snow fall.



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Changchun will make study and research on the following two topics:

- a. Analysis of source of particulate matters in the air in winter season;**
- b. Negative impact to the environment by the using of snowmelt agent.**

The exchange of ideas and topic discussions are welcomed.



1. Purpose and Significance of the Research

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The climate of Changchun is continental monsoon climate. It is located in the Northern Hemisphere, a temperate zone, a plain of the Northeast Plains of Eurasia. As the capital city of Jilin Province, its latitude is 20,565 square kilometers, and its average annual temperature is 5.1°C. The city has a population of 7.45 million, with a population density of 358 people per square kilometer. The average annual snowfall measured at 32.3 mm.



Changchun, a beautiful winter city in north China, won its fame as a culture city, film city, forest city and auto city.



1. Purpose and Significance of the Research

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Over the years, Changchun Municipality facilitated various measures to bring improvement to the air quality by using regional central heating system to provide heat to citizens, enlarging green coverage and preventing industrial pollution, etc.



1. Purpose and Significance of the Research

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Particulate in the air caused by the removal of snow and coal burning in heating the city have become the dominating pollutant in winter (esp. during heating period). The disadvantage for the using of snow melt agent emerged.

In such case, Changchun initiates the research on these two subjects, willing to solve the city problems.

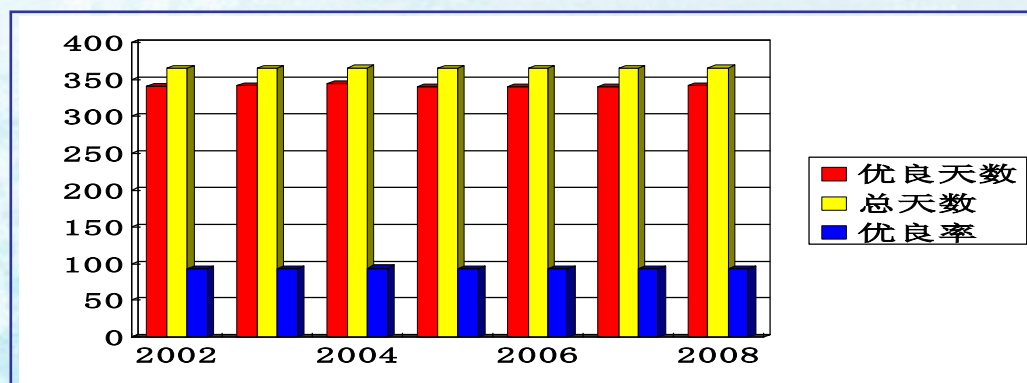
1. 1 Analysis of source of particulate matters in the air in winter season;

- TSP, Total Suspended Particulate is a frequent used pollution index in air quality assessment.**
- Floating dust (PM10, Particulate matter with particle size below 10 mic) is also called IP (Inhalable Particles) . One of the other most remarkable research objects.**

TSP、PM10 are the major air pollutants in Changchun.

1.1 Analysis of source of particulate matters in the air in winter season

The statistic record from 2006 to 2010 indicates that SO₂ and NO₂ is under control, TSP and PM₁₀ is the major figure influence the air quality.



Year	2003	2004	2005	2006	2007	2008	2009
Total	365	365	366	365	365	365	366
Good day	341	342	345	340	340	340	342
Rate of G	93.4	93.7	94.3	93.2	93.2	93.2	93.4

1.1 Analysis of source of particulate matters in the air in winter season

- Purpose and significance of the research

1. Fully analyze the situation, source and ingredients of PMs, assess PM's contribution and its negative impact to the environment, draw up countermeasures.

2. Solve urban dust pollution effectively, alleviate its negative impact to the eco-system.

3. Adopt advanced technology on analysis of PM source, know its origin and respective ratio. Pinpoint the key pollutant and formulate measures and plans on environment protection.

4. The research is of great significance for environment management and decision making. The research could also provide reference to the other winter cities in solving PM pollution.



1.2 The research on alleviating the negative environment impact from using the snowmelt agent

Take Changchun as example, the city experienced 21 snowfalls from Nov.2009 to Mar.2010. Among which, 11 snowfalls are middle plus snowfalls and 10 are light ones. The average snowfall of that period of time scaled at 62.3 mm, 107% more than previous years and ranking the No.1 in the record history. In this winter, Changchun used no less than 5000 tons of snowmelt agent, the amount of usage of snowmelt agent doubled more than that of the previous years.

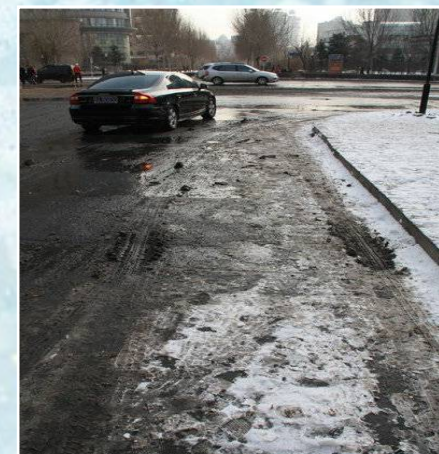


1.2 The research on alleviating the negative environment impact from using the snowmelt agent

The use of snowmelt agent gives convenience to the citizens and makes it easier to remove the snow, meanwhile, it brought trouble to the infrastructure and city environment.

1. The water contain large amount of snowmelt agent damage the road surface, there are many cracks and potholes appeared on roads and bridges.

2. If the melted snow water which contains chemical agent flows into the city water or groundwater, it will change water condition, threaten the living of fishes and grow of crops and plants, lead the salinization of soil and damage the health of people.



1.2 The research on alleviating the negative environment impact from using the snowmelt agent

* Purpose and significance of the research:

1. To know the pollution made by using of snowmelt agent;
2. To find proper countermeasures on pollution, develop snow removal technology, and alleviate environment deterioration;
3. To safeguard the health of people and the well operation of the environment.

