INSIGHT

Space photos may detail nature's woes

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Science

We wonder a lot about what we're doing to the world, but lately we've made some moves to find out.

The Soviet Union has announced that cosmonauts Vladimir Lyakhov and Alexander Alexandrov will photograph wilderness areas from the orbiting Salyut-7 space station to evaluate man's impact on nature.

The Soviet pictures may help show what's happening to plant life in the boondocks on all continents, so we can see if we're wrecking the scenery by blowing factory smoke over it. If that is the case, they should help spot the culprit factories, too.

But as we fret about industry pumping chemicals into the air that give us acid rain and kill our fish and even some of our trees, we sometimes forget we put far more carbon dioxide (CO-2) into the atmosphere than anything else.

It seems relatively docile, so we tend not to worry. Yet we produce the stuff every time a fossil fuel is burned, whether the fuel is oil or coal or gasoline or natural gas, and whether the result goes out a factory smokestack or a car exhaust pipe or the chimney on the house of someone who crusades for environmental protection.

The National Research Council (NRC) in the U.S. recently wrapped up a global study on where *this* is taking us.

Greenhouse effect

CO-2 in the upper air creates a greenhouse effect by acting as a one-way invisible barrier. It lets energy from the sun pass down to earth, but stops surface heat from radiating back into space. It's like a warming blanket for the planet, in other words, and the thicker the air gets with it, the warmer the earth becomes.

This concept is not new, but the American NRC assessment of it is. So what did they conclude? Just this:

- CO-2 in the atmosphere will be up 18 per cent over today's level by the end of this century (just over 16 years away) and the earth will be one degree Celsius warmer. Not to worry — farm land in the southern U.S. might be a bit dry, but it will be wetter and better for growing in the north.
- But by late in the next century, CO-2 probably will be at double today's level and the earth will be between 1.5 and 4.5 degrees Celsius warmer, with the change being bigger at the poles than the equator.

Melting polar ice caps could raise ocean levels 70 centimetres (about 2 feet) over the next century, but as much as 2 metres (6.5 feet) per century after that. In other words, if you're buying a retirment home on the ocean, make sure it's on a hill overlooking the shore, if you plan to leave it to your great-grandchildren.

About a year ago, we wrote about a young fellow named Greg Vezina in North Bay (he's in Ottawa now) who had adapted a gasoline car engine to run on ammonia — yes, the same kind of ammonia that's used for smelling salts and floor cleaners and fertilizer. The car ran just fine but the engine was a hand-made job and not totally efficient, so driving it tended to clear the sinuses. Because of the smell, people looked at Vezina as if he was a bit odd.

But he was not odd. He was simply concerned about keeping the world from being flooded by too much CO-2 (among other things) in the air. Not only is ammonia something we can manufacture in huge volume in Canada, you see, but when it burns in a well-designed engine, the only thing that comes out of the exhaust pipe is pure water vapor. That's not true of propane or the other so-called "clean-air" fuels.

Vezina called the other day. "Did you see the American NRC report on CO-2?" he asked. There was a touch of triumph in his voice. He has not grown rich on his ammonia-engine idea and maybe never will. But at least, his point is made.

Comet's tail discovered

As we get better telescopes, we find all sorts of things in the sky that we never knew were there before. The comet Tempel 2, for instance, which has been tracked often in the past, was always assumed to have no tail. Now an British-U.S.-Dutch infra-red telescope on an orbiting satellite has found it not only has one, but the thing is 32 million kilometres long. It was just too faint for our old spyglasses to see.