

WHAT WOULD HAPPEN IF

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What would really happen in the United States TODAY, if a two kilometre asteroid were observed heading for earth, and due to strike within a year.

1. What would the Observer do?
2. What would the administration do?
3. Who makes the decisions? What are they?
4. What about other nations?

As Doctor Morrison pointed out last night, there are only fifteen astronomers world wide looking for asteroids.

In the United States, this asteroid would most likely be found by Spacewatch, Dr. Tom Gehrel's team on Kitt Peak.

The ephemeris prediction would take a group of sightings spread over three months of the dark moon.

So there would be lots of time for the Observer to decide on a course of action.

All NEO sightings are sent to Dr. Brian Marsden at the Minor Planet Centre of the IAU (International Astronomical Union) in Boston. He then sends them on to hundreds of astronomers on Minor Planet Electronic Circulars. If they suspected the trajectory included the earth, might they hold back this information?

Now, in 1996, probably not.

The decision to release news of the possible extinction of mankind, one might argue, should be made by elected representatives that is, the government.

At some point, the Administration would find out. Let's hope it happens by the Observer or Dr. Marsden alerting the Science Advisor to the President before sending it on to other observers.

He would first speak to the White House Chief of Staff. But the COS first job is to get the President elected again, and to protect his party from any potentially bad political moves. American politicians don't respond to the kind of statistics used by scientists. They want something like: is there one chance in ten of mankind being destroyed? At this point, from optical observations, no.

That probability depends upon:

1. Predictions of SIZE: But albedos vary, so from optical data alone, an accurate assessment of size at this point would not be possible.
2. Calculation of ORBIT:

The pixel in a CCD is about an arc second. At a distance of half an AU an arc second represents 365 km. An asteroid of two kilometres in diameter can be a lot of places in that cube.

Optical data alone is unlikely to cause the Administration to mobilize resources worldwide. The President (and for that matter the Russian President) cannot be seen as someone who reacts to every panic coming from a scientist. So the Administration would wait. Wait for radar.

The upgraded Arecibo Telescope will tie down the orbit and the size

The asteroid would have to be in the Northern sky and within RANGE. A two kilometres asteroid can only be seen .25 of an AU, ~40 million kilometres away.

As Dr. Morrison pointed out, NEO's regularly swing past the earth. As soon as the optical ephemeris places it within range, Dr. Steven Ostr. would fly to Puerto Rico. In one hour, he could tie down the size and the distance. He'd forward data to JPL in Pasadena where Dr. Donald Yeomans could calculate the ephemeris.

If the resulting ellipsoid of uncertainty included the earth, at that point, yes, you'd know you have a real threat. The Administration would take action.

Science Advisor and Dr. Marsden for example would meet the National Security Council or its staff in the Situation Room in the basement of the White House. Over several meetings — the NSC would likely go from complete disbelief, to skepticism, to grudging acceptance to wild apprehension.

Step One: The would declare a Black Program, that is, make it "top secret"

The annihilation of mankind within six months just might be too large a concept for the public to handle.

Remember, the orbit is being continuously refined and not yet absolutely precise. And we would not be certain of deflecting it yet, if at all. While these doubts exist, a black program, though hotly debated because it makes things so much more difficult, would I believe be mandated.

Now the role of the intelligence community. All top secret documents arriving on the desk of the President refer to "Threats to the Country. "Threats" are the domain of the intelligence community — the CIA, the FBI, NSA (National Security Agency) and so on. Every country has a similar structure.

For that community, this threat is "made in heaven" both literally and figuratively. Since the Cold War, the factions need a new niche, so they would all fight to control this one.

Step Two. The Science Advisor would call on only eight to ten of the best scientist in the field to select alternatives. This meeting would be held at a distant location, away from journalists.

Step Three: An Administrator would take charge as Robert Oppenheimer did with the Manhattan Project someone from the military, either active or in retirement, with logistical experience. The Administrator would set up a command centre. Probably at Los Alamos, or in Washington itself. And appoint a small scientific advisory committee.

Next: the marshalling of resources, the best engineers, scientists, designers and the mobilization of resources on a scale never before undertaken in human history. And in greatest secrecy. A difficult endeavor.

FUNDING: Would Congress pass a hotly debated bill? No! Money would be no problem. As with the Manhattan project, the members of Congress need know nothing.

CONGRESS: The President would only inform the Chairs of the Select Committees on Intelligence in both the House of Rep and the Senate. Then the leadership of the Armed Services Commit-tees. And finally of course, the leader of the Appropriations Committee, to avoid complications later if the gigantic dispersal of funds were discovered.

International Question: Who would the Administration contact? That depends on what resources they need. This points to only one ally: Russia.

The UN would be kept out of it. Heads of other selected governments would be informed, on a Head-of-State Level only.

It is now that strategies would be implemented, using the recommendations from this and other conferences, with all the scientists assembled here, working day and night, with unlimited resources, with the industrial might of both nations, and with the power to order anything that is needed.

And let me add one final note: Some of you will remember the Manhattan Project, when the scientists who devised the atom bomb were not all agreed that it should be dropped? So here too, any recommendations from the scientists would be decided by the Administration.

The deadline is not an administrative one, but the threat of extinction: Our own, our children, our wives, our friends. The human spirit might do marvelous things. With death as the alternative.