CLAIMS

1. A method comprising:

receiving, by a satellite (105) having a remote sensing platform (175), a base map comprising a first geographical distribution of information (210), wherein the base map comprises one or more identified objects of the first geographical distribution of information (210), and wherein the base map is received from a ground station (110);

detecting, by the satellite (105) using the remote sensing platform (175), a second geographical distribution of information (230);

determining, by the satellite, difference information (250) representing a difference between the second geographical distribution of information (230) and the first geographical distribution of information (210), wherein determining the difference information (250) comprises identifying one or more additional objects in the second geographical distribution of information (230) that are not in the first geographical distribution of information (210), or identifying movement of one or more of the identified objects between the first geographical distribution of information (210) and the second geographical distribution of information (230), or identifying that one or more of the identified objects are not in the second geographical distribution of information (230), or a combination thereof; and

transmitting, by the satellite (105) to the ground station (110) via a communication link (160, 140), the difference information (250).

2. The method of claim 1, wherein the satellite (105) comprises a first satellite (105-a) and the communication link is serviced by a second satellite (105-b), and the transmitting the difference information to the ground station (110) comprises:

transmitting the difference information to the second satellite (105-b) for relay by the second satellite (105-b) to the ground station (110).

3. The method of claim 2, wherein receiving the base map from the ground station (110) comprises:

receiving the base map from the ground station (110) via the second satellite (105-b).

4. The method of claim 2, wherein the first satellite (105-a) is in a low earth orbit and the second satellite (105-b) is in a geostationary orbit.

5. The method of any one of claims 1 through 4, wherein the base map comprises a first base map corresponding to a first orbital position of the satellite (105), the method further comprising:
receiving a second base map corresponding to a second orbital position of the satellite (105), the second base map comprising a third geographical distribution of information (210);
detecting, by the satellite (105) using the remote sensing platform (175), a fourth geographical distribution of information (230) from the second orbital position;
determining, by the satellite (105), second difference information (250) representing a difference between the fourth geographical distribution of information (230) and the third geographical distribution of information (210); and
transmitting, by the satellite (105) to the ground station (110) via the communication link (160, 140), the second difference information (250).

6. The method of claim 5, wherein the receiving the second base map occurs within a portion of an orbit of the satellite (105) between the first orbital position and the second orbital position.

7. The method of any one of claims 1 through 6, wherein the remote sensing platform (175) comprises a visible spectrum imaging device, an infra-red imaging device, a hyperspectral imaging device, a synthetic aperture radar, or a combination thereof.

8. The method of any one of claims 1 through 7, further comprising:
determining scheduling for the transmitting the difference information (250) based at least in part on channel conditions of the communication link (160, 140), a cost of bandwidth of the communication link (160, 140), or a quantity of data of the difference information (250).

9. The method of any one of claims 1 through 7 or 8, further comprising:
receiving, from the ground station (110), one or more parameters for determining the difference information (250).

10. The method of any one of claims 1 through 7, 8, or 9, further comprising:
receiving second difference information (250) representing a difference between the first geographical distribution of information (210) and a fifth geographical distribution of information (210); and
generating an updated base map based at least in part on the second difference information (250).

11. A method comprising:
transmitting, from a ground station (110) to a satellite (105) having a remote sensing platform (175), a first base map comprising a first geographical distribution of information (210), the first base map corresponding to a first orbital position of the satellite (105), wherein the first base map comprises one or more identified objects of the first geographical distribution of information (210); and
receiving, from the satellite (105) via a communication link (160, 140), a transmission comprising difference information (250) representing a determined difference between a second geographical distribution of information (230) detected by the remote sensing platform (175) at the first orbital position and the first geographical distribution of information (210), wherein the difference information (250) comprises an indication of one or more additional objects in the second geographical distribution of information (230) that are not in the first geographical distribution of information (210), or an indication of a movement of one or more of the identified objects between the first geographical distribution of information (210) and the second geographical distribution of information (230), or an indication that one or more of the identified objects are not in the second geographical distribution of information (230), or a combination thereof.

12. The method of claim 11, wherein the satellite (105) comprises a first satellite (105-a), and the receiving the transmission comprises:
receiving the transmission at the ground station (110), the ground station (110) providing the communication link (160, 140) for the first satellite (105-a) via a second satellite (105-b).

13. The method of claim 12, wherein transmitting the first base map from the ground station (110) to the satellite comprises:
transmitting the first base map from the ground station (110) to the first satellite (105-a) via the second satellite (105-b).

14. The method of claim 12, wherein the first satellite (105-a) is in a low earth orbit and the second satellite (105-b) is in a geostationary orbit.

15. The method of any one of claims 11 through 14, further comprising:
generating the first base map based at least in part on one or more images of a geographical region corresponding to the first geographical distribution of information (210) and an elevation model of the geographical region.

16. The method of claim 15, wherein generating the first base map comprises:
modifying the one or more images to represent a perspective of the satellite (105) at the first orbital position based at least in part on the elevation model of the geographical region.

17. The method of claim 15, wherein generating the first base map comprises:
modifying the one or more images based at least in part on a time of day, meteorological information for the geographical region, or a combination thereof.

18. The method of any one of claims 11 through 17, further comprising:
transmitting, to the satellite (105), a second base map corresponding to a second orbital position of the satellite (105), the second base map comprising a third geographical distribution of information (210); and
receiving, from the satellite (105), a second transmission comprising second difference information (250) representing a determined difference between a fourth geographical distribution of information (230) detected by the remote sensing platform (175) at the second orbital position and the third geographical distribution of information (210).

19. The method of claim 18, wherein the transmitting the second base map occurs within a portion of an orbit of the satellite (105) between the first orbital position and the second orbital position.

20. The method of any one of claims 11 through 19, further comprising:
determining scheduling for receiving the transmission based at least in part on channel conditions of the communication link (160, 140), a cost of bandwidth of the communication link (160, 140), or a quantity of data of the difference information (250).

21. The method of any one of claims 11 through 20, further comprising:
transmitting, to the satellite (105), one or more parameters for determining the difference information (250).

22. The method of any one of claims 11 through 21, wherein the remote sensing platform (175) comprises a visible spectrum imaging device, an infra-red imaging device, a hyperspectral imaging device, or a combination thereof.

23. A satellite (105, 403, 505), comprising:
a transmitter (525);

a receiver (535);

a sensing platform (175, 515);

a processor (190, 520, 530, 540);

memory coupled with the processor (185, 520, 530, 540); and

instructions stored in the memory and executable by the processor to:

receive, via the receiver (535), a base map comprising a first geographical distribution of information (210), wherein the base map comprises one or more identified objects of the first geographical distribution of information (210), and wherein the base map is received from a ground station (110);

detect, using the sensing platform (175, 515), a second geographical distribution of information (230);

determine difference information (250) representing a difference between the second geographical distribution of information (230) and the first geographical distribution of information (210), wherein determining the difference information (250) comprises identifying one or more additional objects in the second geographical distribution of information (230) that are not in the first geographical distribution of information (210), or identifying movement of one or more of the identified objects between the first geographical distribution of information (210) and the second geographical distribution of information (230), or identifying that one or more of the identified objects are not in the second geographical distribution of information (230), or a combination thereof; and

transmit, using the transmitter (525), the difference information (250) to the ground station (110).

24. An apparatus (110, 130, 401, 605), comprising:

a processor (620, 625);

memory coupled with the processor (620, 625); and

instructions stored in the memory and executable by the processor to:

transmit, from a ground station (110) to a satellite (105), a first base map comprising a first geographical distribution of information (210), the first base map corresponding to a first orbital position of the satellite (105)), wherein the first base map comprises one or more identified objects of the first geographical distribution of information (210); and

receive, from the satellite (105) via a communication link (160, 140), a transmission comprising difference information (250) representing a determined difference between a second geographical distribution of information (230) detected by the satellite (105) at the first orbital position and the first geographical distribution of information (210)), wherein the difference information (250) comprises an indication of one or more additional objects in the second geographical distribution of information (230) that are not in the first geographical distribution of information (210), or an indication of a movement of one or more of the identified objects between the first geographical distribution of information (210) and the second geographical distribution of information (230), or an indication that one or more of the identified objects are not in the second geographical distribution of information (230), or a combination thereof.