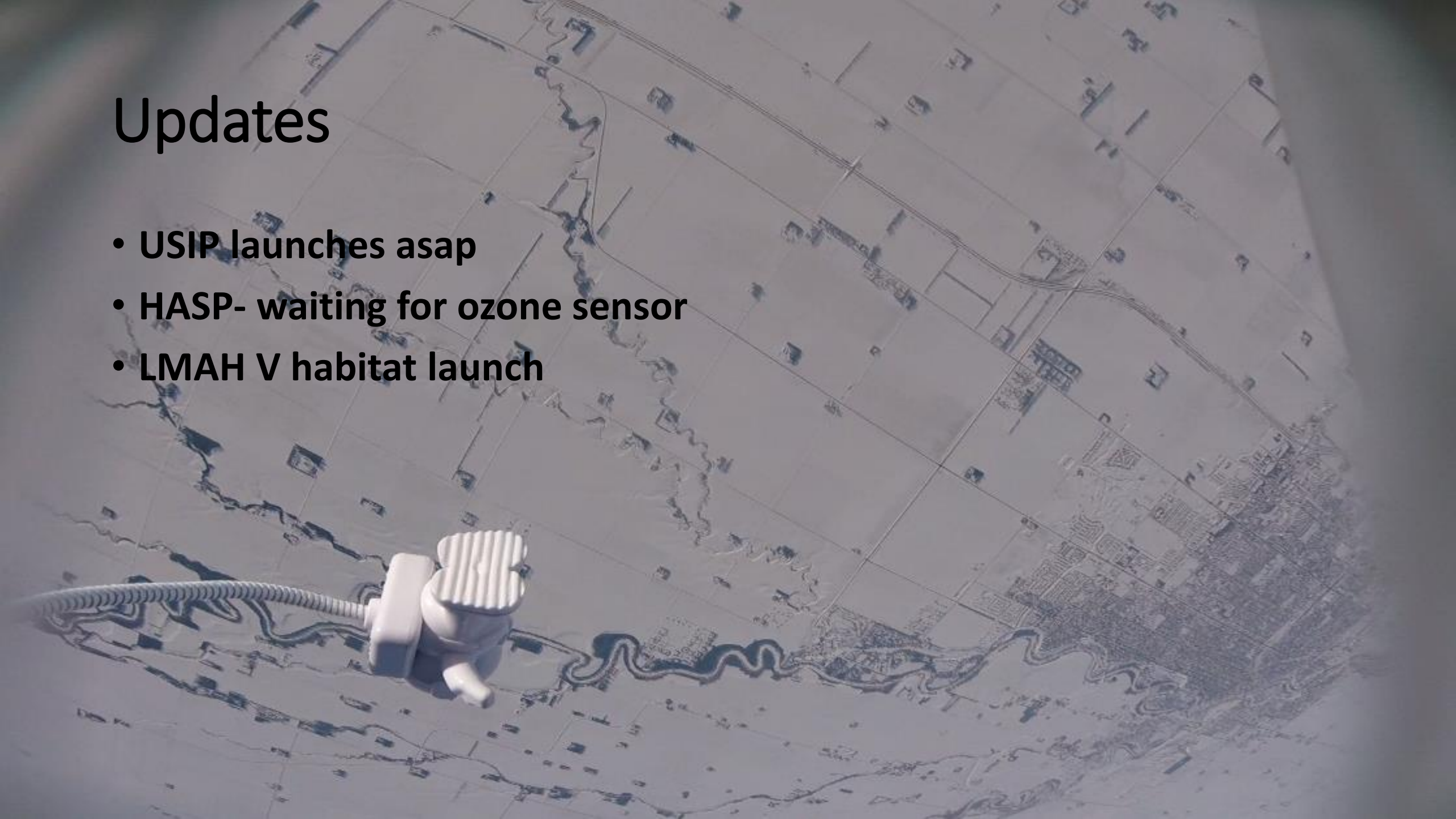
AESIR Ballooning

02/28/18

Updates

- **USIP launches asap**
- **HASP- waiting for ozone sensor**
- **LMAH V habitat launch**

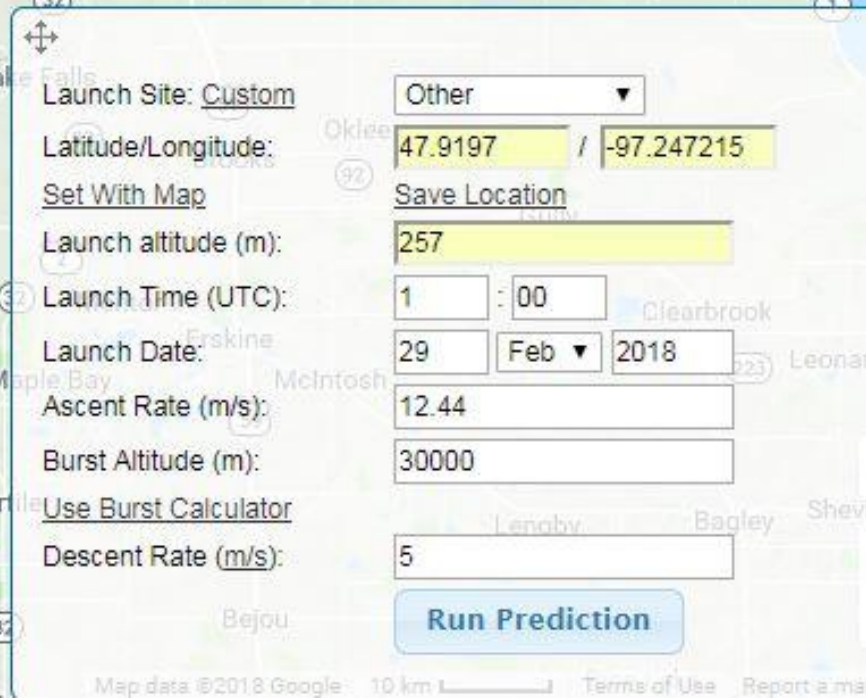


Pre- flight roles

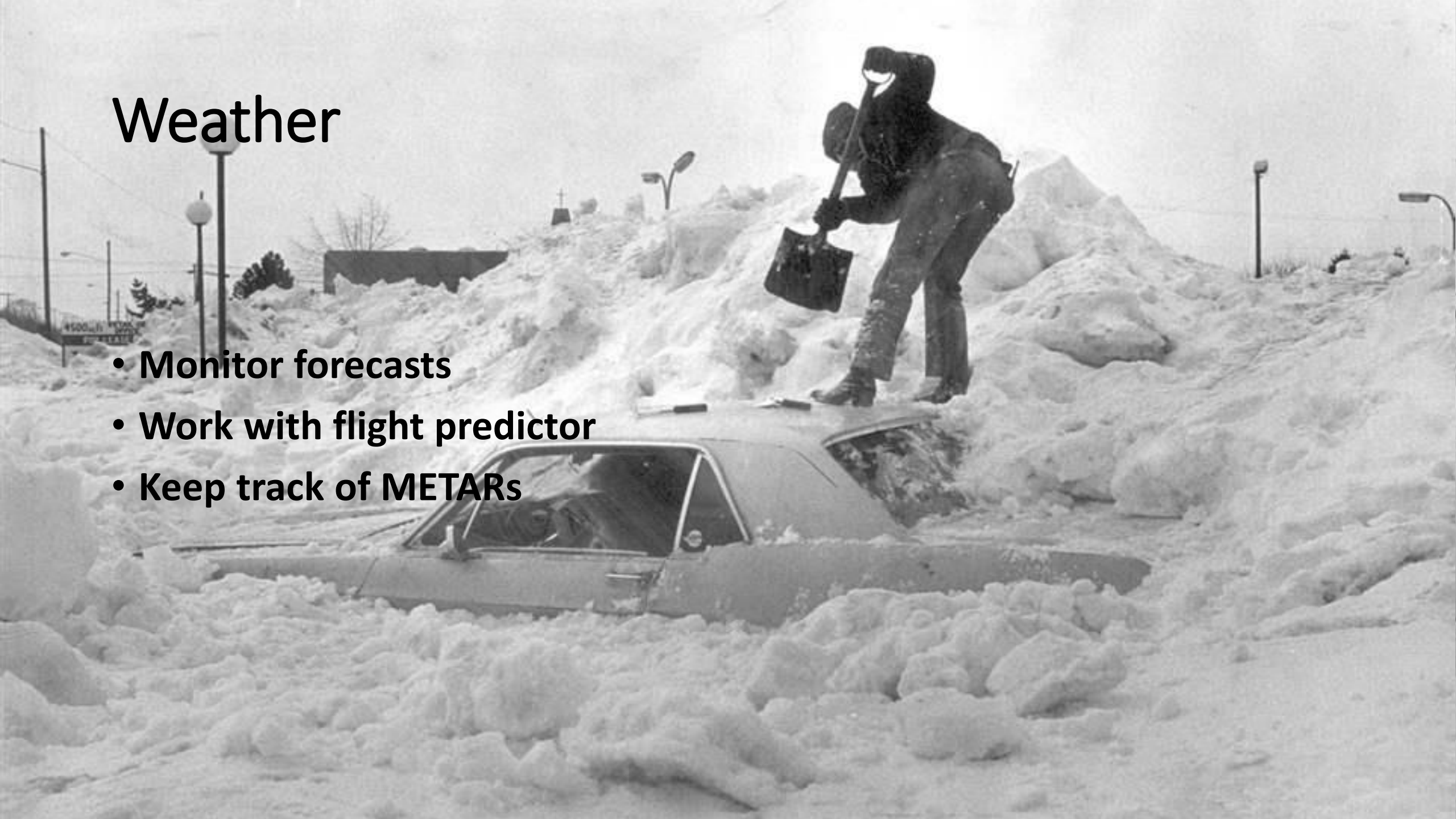
- **Flight prediction**
- **Weather**
- **File NOTAM**
- **Heavy supplies/state vehicles**
- **Payloads**
- **Weights**
- **Tracking and cameras**
- **Sensors**
- **Payload integration**

Flight Predictions

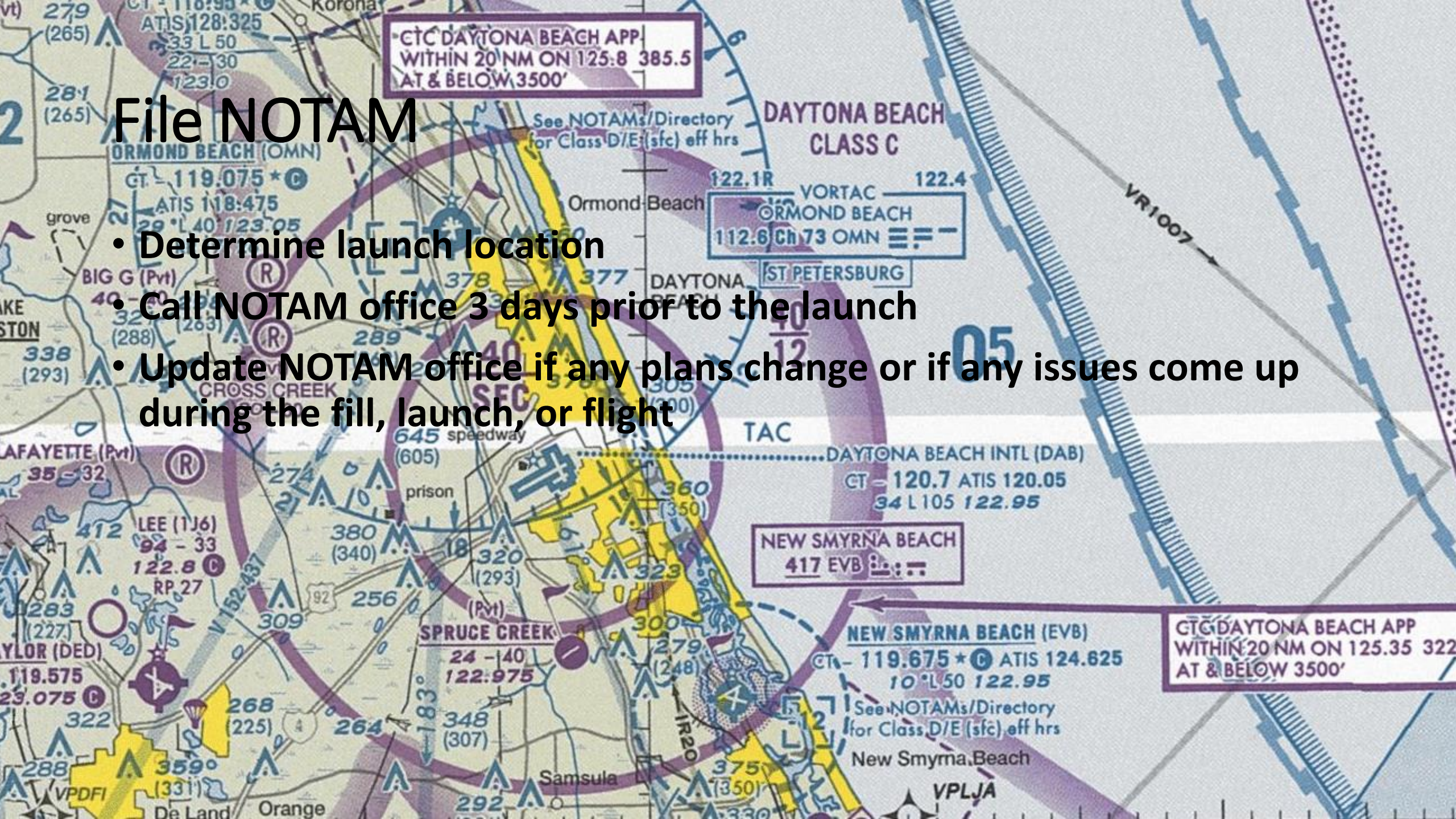
- Run flight predictions 1 week, 3 days, and 1 night before flight
- Use multiple software (HabHub, Allen Jordan, Stanford, etc)
- Screenshot and export data
- After the flight, analyze actual path
- Always consider weather
- Save predictions and actual paths



Weather



- **Monitor forecasts**
- **Work with flight predictor**
- **Keep track of METARs**

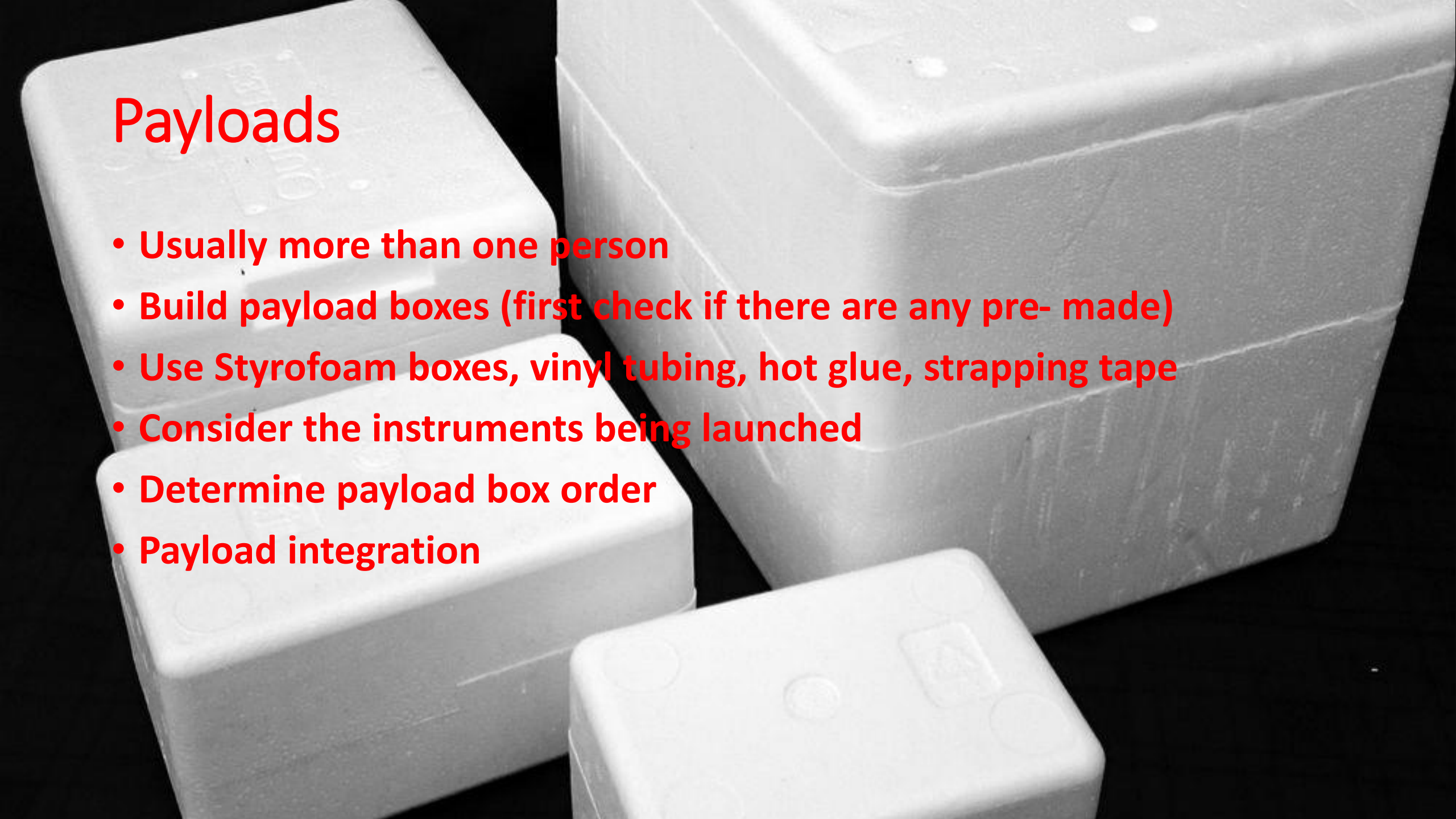


File NOTAM

- **Determine launch location**
- **Call NOTAM office 3 days prior to the launch**
- **Update NOTAM office if any plans change or if any issues come up during the fill, launch, or flight**

Heavy Equipment

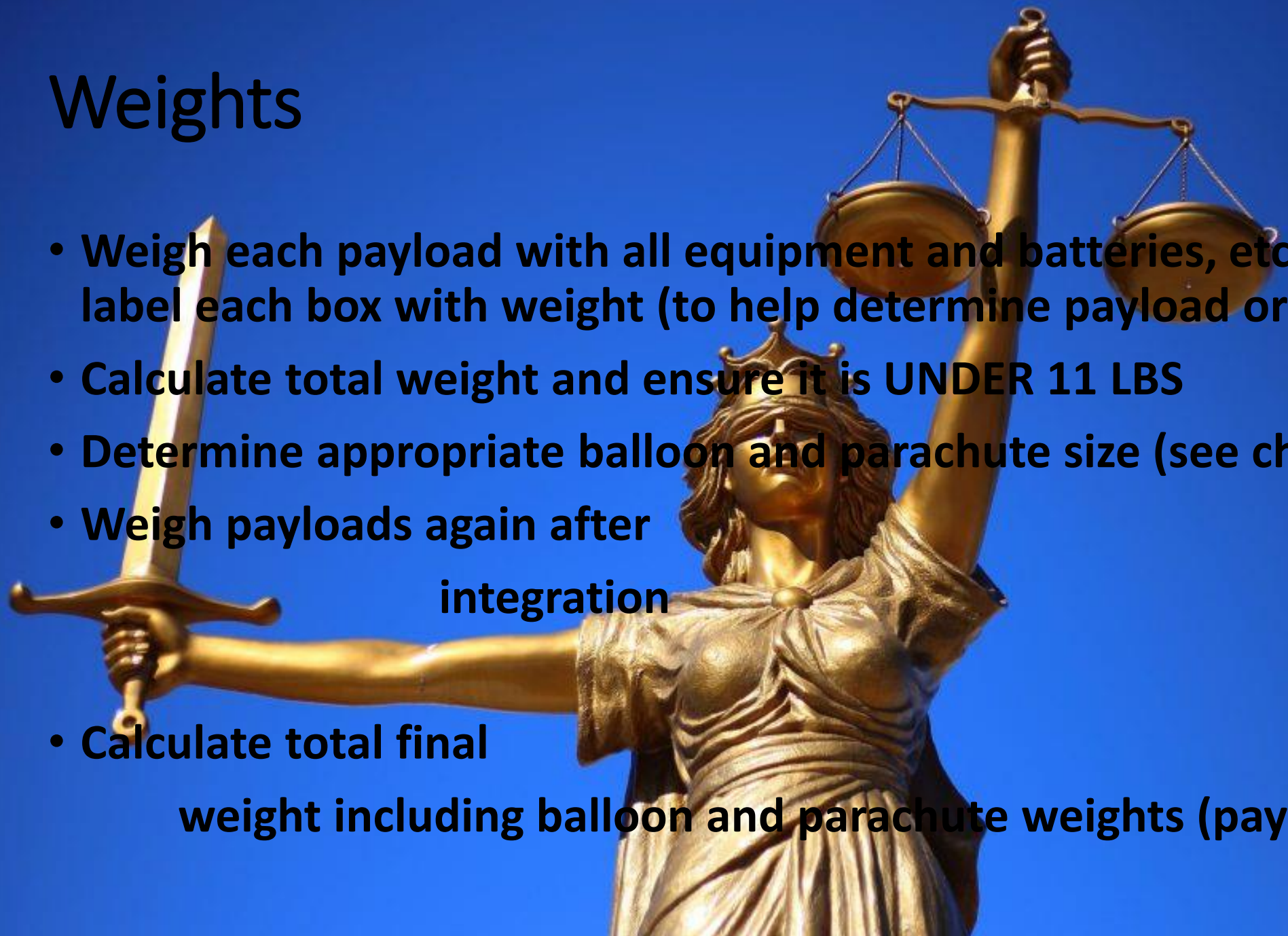
- Request state vehicles at least one week before launch
- Check that helium tanks are full
- Check the pickup truck bed and oil and gas levels (fill at state vehicle gasoline station if needed)
- Driver ID cards?



Payloads

- Usually more than one person
- Build payload boxes (first check if there are any pre- made)
- Use Styrofoam boxes, vinyl tubing, hot glue, strapping tape
- Consider the instruments being launched
- Determine payload box order
- Payload integration

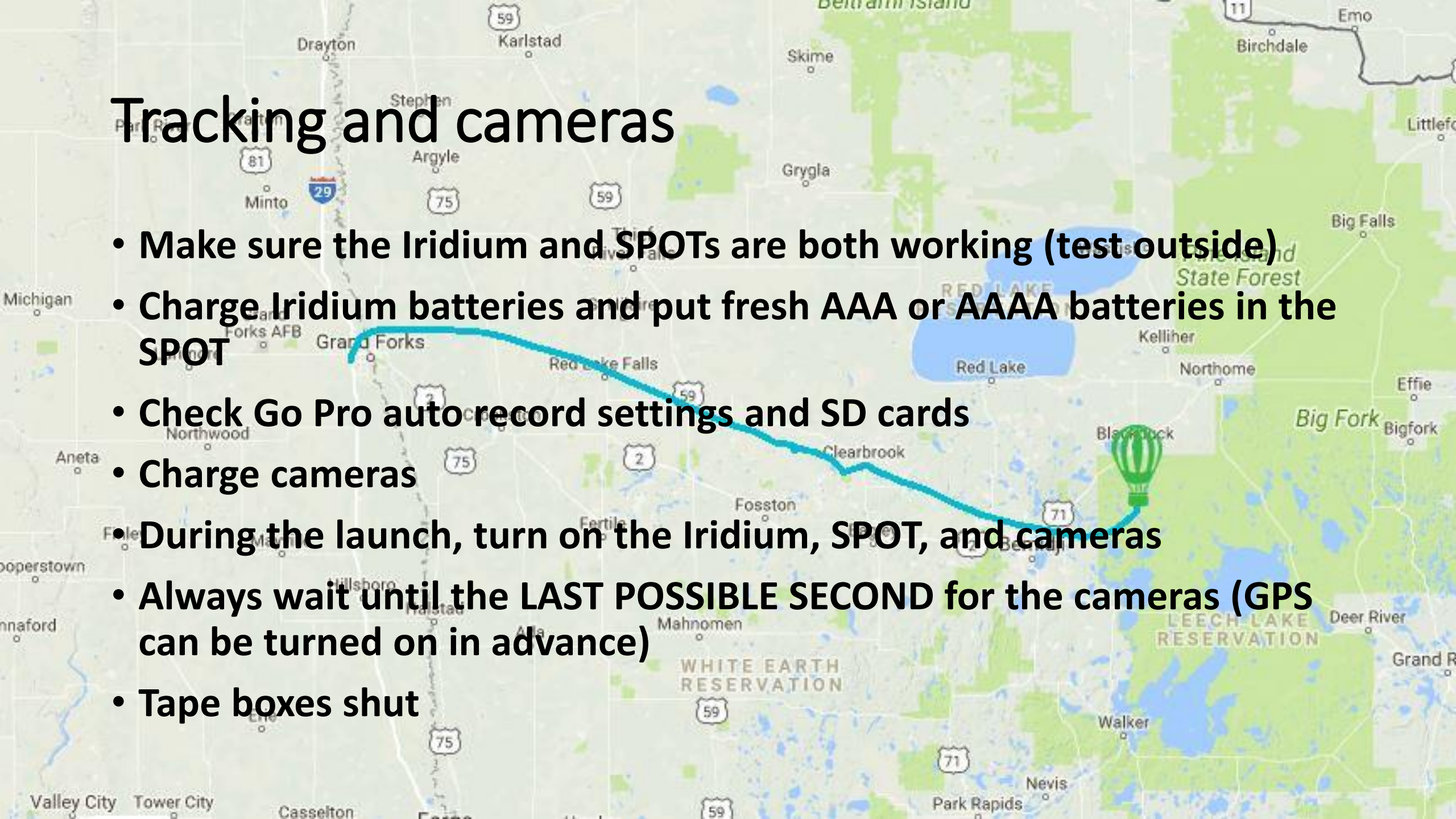
Weights



- **Weigh each payload with all equipment and batteries, etc, inside and label each box with weight (to help determine payload order)**
- **Calculate total weight and ensure it is UNDER 11 LBS**
- **Determine appropriate balloon and parachute size (see charts)**
- **Weigh payloads again after integration**
- **Calculate total final weight including balloon and parachute weights (payloads <12 lbs**

Tracking and cameras

- Make sure the Iridium and SPOTs are both working (test outside)
- Charge Iridium batteries and put fresh AAA or AAAA batteries in the SPOT
- Check Go Pro auto record settings and SD cards
- Charge cameras
- During the launch, turn on the Iridium, SPOT, and cameras
- Always wait until the LAST POSSIBLE SECOND for the cameras (GPS can be turned on in advance)
- Tape boxes shut



Sensors

- **Determine which sensors should be flown**
- **Determine configuration**
- **Test each sensor by letting it run for a minimum of 2 hours, and check data collected**
- **Plug in fresh batteries the morning of the launch**

Questions?