# CAANZ Safety Investigation Unit

Developments in field equipment and computer simulation

Presenters:

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### Introduction

Peter Kirker - Manager SIU

Recent advances in SIU Investigator's equipment

**Helicopter Training** 

360° Photography

**Computer Simulation** 



### **Investigator's Gear**

PPE Camera Laser Range Finder PLB Tents Stove Food Packs Pelican Cases



### PPE

### Kits put together locally

AMTECH Wanganui Order to onsite, within half day

Cost \$69 NZD USA equivalent \$189 NZD





### Camera

### **Canon SX1 Digital**

Photo and HD Video
10.0 Mega Pixels
20 x Wide Zoom
16 GB Card 1000-10,000 Photos



\$700 NZD



### Laser Range Finder

**NcStar NLB 800** \$170 USD (Ebay) Range 12 to 800 metres **Advantages:** Fast Accurate +/- 1 metre Small and lightweight **Disadvantages:** 

> Measures straight lines only Needs a 'target' to aim at



# Laser Range Finder







### EPIRB – Kannad 406 PLB

Personal Locator Beacon GPS Operating Life 24 hours Must be registered





### **Pelican Cases**

Two types in use - Pelican 1550 and 1630

Pelican 1550

Hand Luggage placed in aircraft hold





### **Pelican Cases**

Pelican 1630

### Caution – may be too heavy for couriers, 25 kg limit





### **Tents**

### Macpac Minaret

Two person Four season tent 2.4 kg Multi pitch

All round compromise



### Stove



### Primus Omni Fuel Stove

Fuel Types: Gas cartridge White spirits Petrol Kerosene Diesel



**Considerations for flight** 



### **Food Packs**

24 hour ration packs

Military packs Note: The label wording !

Back Country Cuisine Freeze Dried



### **Helicopter Training**



AS 350 Squirrel and UH-1H Iroquois Every two years Individual harnesses-Miller AMAX 1 Long line Winch Hover







### and

**Computer stimulation** 



Requires Tripod with 'Pano head'
3 sets of overlapping photos stitched together
12 photos for each 360°
Portrait orientation
Marops Ltd www.marops.net





Technology based company specialising in interactive 2D and 3D graphics, training and technical surveillance projects in the defence and commercial sectors.

Contact: contacts@marops.net



### **Advantages:**

- Provides 360 degree views of accident scene/surroundings
- Zoom capability
- Close-up photos can be inserted
- Can incorporate with map
- Provides great scene reference material back at the office



### **Disadvantages:**

- Takes time to do properly
- Scene must be static no movement of people/vehicles etc
- Lighting conditions can be challenging
- Could be difficult to do in harsh terrain







**Example – Cresco Accident** 

Parts V4.exe



## **X-Plane Flight Simulation**



### X-Plane 9.20rc4

This is X-Plane, HOME-USE VERSION, NOT APPROVED FOR COMMERCIAL USE. Do NOT use this version for commercial applications.

For commercial use, see www.X-Plane.com/FTD.html Report violations to austin@x-plane.com

Get your updates and other good stuff at www.X-Plane.com and www.X-Plane.org!

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# **X-Plane Flight Simulator**

### **X-Plane Software:**

- Lanmar Research <u>www.x-plane.com</u>
- Encourage third party plug-ins
- Advanced versions approved by FAA
- Cost \$39 USD
- Plug-in Developed by Marops Ltd from Airways Skyline data



# X-Plane Flight Simulator

**Computer System Requirements:** 

Processor RAM Disk space CD/DVD Video Card 2 GHz + > 1 Gb > 70 Gb Dual layer DVD NVIDIA > 32 Mb



# **Skyline Aircraft Track Plot**

### SKYLINE AIRCRAFT TRACK PLOT

Victure Center: (Long)174 Selected Maps : , Notes, Radar precision is limited	02/16 2205.41.181 To 2214:07.636 4.987. (Luk)-40.8997 Runway, _262coast, A_Photo and depends on several factors. s may on some occasions vary from actual ain	Track Type: System Track Picture Width: 3.5119 NM craft position by up to 0.5nm in any direction	<ul> <li>◇ - Reinforced</li> <li>● - PSR Only</li> <li>□ - SSR Only</li> <li>□ - SSR Only</li> <li>× - Coasted</li> <li>+ - Interpolated</li> <li>★ - Alert</li> </ul>
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# **Skyline Data**

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## **X-Plane Flight Simulator**

X-plane Demo



### Questions

